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final solution of the philosophical problem from a positivistic standpoint, because that very standpoint precludes a final solution. For positivism demands a philosophy that shall deal with particular philosophic concepts and problems, as every science deals with *its* problems. No sane scientist denies that each of his problems admits of indefinitely more profound investigation, and in precisely the degree in which philosophers will attack their specific problems in the same spirit they will rehabilitate their scientific standing. With regard to Cornelius it has been indicated that several of his analyses do not seem to attain to the relative degree of profundity that might have been expected. But viewed as a whole, and more particularly as contrasted both with the reactionary sciolism now invading philosophical literature and with the crudities of much *soi-disant* positivism, his epistemology constitutes a landmark in the transition to a philosophy of the future that will be at once uncompromisingly radical and unassailably critical.

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*Experiments in Educational Psychology.* DANIEL STARCH. New York: The Macmillan Company. 1911. Pp. vii + 183.

Two questions arise in the consideration of this work. First, what is its value in relation to other books in the same field? Second, what is the value of this method of approach to the problems of education: does it bring new insight or does it complicate the situation?

Dr. Starch has brought together some valuable materials which must prove very stimulating to the teachers who are able to grasp them. He gives experimental methods for testing in concrete ways the facts of individual differences, the obstacles to learning which result from defective sensation channels, the place of mental imagery in the processes of learning and knowledge, the place of "trial and error" in experience, the progress of habit-building, the actualities in "formal discipline," the facts of "association," the nature of the apperceptive processes, the methods and laws of attention, the values of memory in learning, and the vital relationships of work and fatigue. All these things are real factors in the equipment of the teacher, and the teacher can not know too much about them. Any work which attempts to make clear these fundamental elements in mental development must be welcomed, and it must be said that Dr. Starch has organized his materials in such a way as to make them very interesting to the teacher of educational psychology, and, rightly interpreted, to the average teacher.

But there is another side to the matter, as indicated by the second question. Experimental education has been going its own way in the last few years, and a rather curious way it is, too. Education, as a whole process, is becoming more socially minded; we are being told that it is essentially a social movement, growing out of social pressures and leading into social programs, both for the child and the race. From this point of view "only social psychology is of primary importance for education." On the other hand, experimental education seeks to isolate certain mental

operations for special study. The very processes of isolation tend to exclude the social element; but this elimination of the social automatically eliminates the ideational, also, since the ideational element arose in experience to mediate the social world and has no reason for existence when the social is gone. The net result of these exclusions in the experimental laboratory is the reduction of the learner to a piece of psychophysical machinery, and the interest of the experimenter centers in the reactions which the machine makes to a series of organized stimuli. The very make-up of Dr. Starch's book is determined by these demands. The "observer" must get no hints as to what is coming next: hence, many pages must be left blank, etc. Now, when the book is read in this light it is seen that provision is made, not for the study of those subjects noted above, but for the study of the following items: the individual differences of nervous systems, characteristic defects of sensation mechanisms, persistence of sense impressions, constructive processes on the higher and lower neural levels, the spread of constructive cerebral processes beyond their local field, the development of intracerebral relations, cerebral reconstructions, the persistence of neural energies and cerebral processes, and the rise, fall, and renewal of neural energies. That is to say, experimental education, as represented by this work, devotes itself to the study of a mechanism under conditions that exclude the presence of the most persistent stimuli, and therefore, the most characteristic reactions, of the actual school situations. A very serious problem is thus raised as to how the student can get these abstract results back into the social world where the actual processes of education go on.

Yet there is no fundamental contradiction between this work of the educational experimentalist and that social psychology of the concrete educational processes demanded by the rising tide of educational inquiry. Social psychology seeks experimental determinations of processes of development and interaction that lie within the fields of social action. And the social psychology of education needs just such studies as this we are considering. But does this laboratory education feel the need of a social setting for its real experiments? And can this laboratory work find its way back into the concrete educational situation? This book deals with problems that have arisen in the life of the school; the problems have been abstracted for special investigation: should not a chapter have been added to the book showing how these problems have arisen, and may arise, and how the results can be reinterpreted into the actual educational situations, where they can be of real value to the teacher? If a laboratory manual is to have proper use, even by the average laboratory instructor, it must clearly relate itself to the concrete problems out of which it arose and into which its results must go.

We need more work of this kind: but the experimentalist in the field of education must be ready to relate his problems and his results to the demands of the concrete educational processes as these are being interpreted by social psychology if his work is to have fundamental value for education.

JOSEPH K. HART.